

REMARKS

This communication is in response to the Office Action mailed on September 12, 2002. The Office Action outlines the restriction requirement imposed on the application and states that the undersigned made a provisional election to prosecution the invention of Group 1, claims 1-23. Applicants hereby affirm this election. Claims 24-27 have been cancelled without prejudice, reserving applicants' right to file a divisional application to this invention in another application.

The Office Action next reports that the Abstract of the disclosure was objected to because of the language "The present invention is". With this amendment, applicants have corrected the Abstract to remove this language. Approval of the revised Abstract is respectfully requested.

The Office Action next reports that the claims as originally filed were misnumbered and that claims 23 (second occurrence) and 24-26 have been renumbered as 24-27. Applicants agree with the corrected claim numbering.

The Office Action next reports that claims 1-3, 6, 8, and 9 were rejected as being anticipated by Shull et al. (U.S. Pat. 3,618,376). In particular, the Office Action reports that Shull et al. disclose in FIGS. 1-7 a load cell body having a first ring member 14, a second ring member 16, each ring member having a central aperture 26 centered on a reference axis and at least three tubes 18, 20, 22, 24 extending from the first ring member to the second ring member parallel to the reference axis.

Applicants respectfully disagree with the interpretations of the cited reference. Shull et al. currently illustrate that columns 18, 20, 22 and 24 are solid, square elements, for example, as illustrated in FIGS. 2 and 3. Shull et al. simply do not teach or suggest the invention recited in claim 1 wherein at least three tubes extend from the first ring member to the second ring member.

It is submitted that use of the word "tubes" as used in claims cannot read on a solid form construction such as in Schull et al. since the well-understood meaning of "tube" is that a hollow center portion is also included. Since Schull et al. do not teach or suggest use of tubes, applicants respectfully submit that claim 1 is allowable.

Applicants respectfully acknowledge that claims 4, 5 and 15-23 would be allowable if rewritten in independent form, including all of the limitations of the base claim and any intervening claims as reported in the Office Action. However, for the reasons provided above, applicants respectfully believe that claim 1 is allowable without the features recited in these claims.

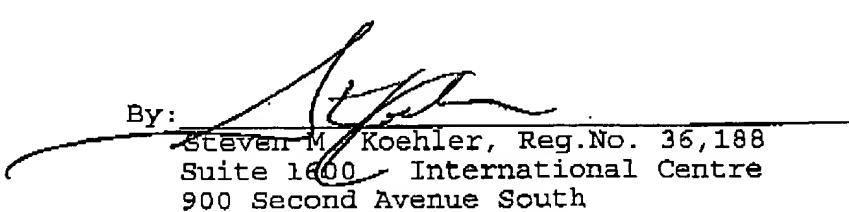
With this amendment, applicants have amended claims 3 and 23 to correct minor antecedent errors.

A petition for an extension of time is hereby requested. A charge authorization is included herewith for the extension fee.

The Director is authorized to charge any fee deficiency required by this paper or credit any overpayment to deposit account No. 23-1123.

Respectfully submitted,

WESTMAN, CHAMPLIN & KELLY, P.A.

By: 

Steven M. Koehler, Reg. No. 36,188
Suite 1600 International Centre
900 Second Avenue South
Minneapolis, Minnesota 55402-3319
Phone: (612) 334-3222 Fax: (612) 334-3312

SMK:jmb

MARKED-UP VERSION OF REPLACEMENT SPECIFICATIONABSTRACT OF THE DISCLOSURE

The present invention is an improved compact load cell, which is used on large vehicles and yet is easy to manufacture. The A load cell comprises two rings having at least three tubes extending from the first ring to the second ring. Sensors are mounted on the tubes to measure strain of the load cell body in a plurality of directions. The load cell can further be mounted on a vehicle spindle to measure forces and moments of a wheel assembly at the spindle as a vehicle is operated.

MARKED-UP VERSION OF REPLACEMENT CLAIMS

3. (Amended) The load cell body of claim 2 wherein the sensors comprises shear sensors and axial tension/compression sensors mounted to each tube.

23. (Amended) The load cell body of claim 2 wherein the sensors comprises a bending sensors.